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Children's understanding of ambiguity and interpretation

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The reading activities of decoding, comprehending and interpreting have traditionally been thought of as a series of steps in the reading process; "Correct reading precedes interpretation" was the claim of Quintillion, the 3rd Century Roman philosopher. More recent understanding of children's acquisition of literacy, including both reading and writing, is based on a new recognition of the reader's role (the beholder's share) in the reading process. This development proceeded through at least three stages (Luke, 1988). At the turn of the Century reading instruction was concerned with decoding and encoding between the written and oral form; reading was a form of translation from a given written form into an oral form. Somewhat later, under the influence of Dewey and Thorndike, reading instruction came to be concerned with silent reading and comprehension; reading was a form of extraction of the meaning encoded in the text. In our own decade, under the influence of reader-response literary theory and constructivist-cognitive theory, reading instruction has come to be concerned with interpretation: reading is the construction or invention of meaning using the text as the evidence on which the construction is based.

Recent theory thus denies the validity of the traditionally held view. Correct reading cannot precede comprehension and interpretation because prior knowledge and expectancies are known to facilitate decoding (Miller, 1988). Rather than see decoding, comprehending and interpreting as stages in the reading process or stages in learning to read, the modern view is that reading is essentially an interpretive activity; reading is an interaction between the properties of a text and the constructive activities of the reader. The meaning of a text is not so much extracted from a text as the product of the

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interpretive activities of the reader. Hence, there is a new focus on meaning and interpretation in reading instruction.

Just what is involved in this interpretive process, however, remains the subject of much debate. Code theorists (Bellan, 1987) emphasize the importance of the features of the text claiming as "The first law of reading" that "the reader must read what is on the printed page, not what he thinks is there." Meaning theorists (Goodman, 1971; Smith, 1971), on the other hand, claim that "it is possible to read for comprehension without actually identifying individual words" (Smith, 1971, p. 4). Code theorists emphasize the importance of the text; meaning theorists emphasize the importance of the constructive activities of the reader.

Construing reading as an interpretive enterprise may clarify the relation between a text and a reader. Interpretation clearly marks the activity as an activity of the reader -- the reader "makes up" the meaning. But what distinguishes pure imagination from reading is that the text is the object of interpretation -- no text, no reading. Reading is then, a process of the retrieval or construction of a meaning that is congruent with the evidence in the text.

Our current research is based on the assumption that reading is an interpretive activity and to this end, we examine children's beliefs and assumptions about that activity and how those beliefs affect their interpretive practices. The research we report here has grown out of a program of research directed to understanding what is involved in young children's language and literacy development. Previously, we have focused on the development of oral and written language skills and the relations between these developments in children in the early school years, roughly from five to ten years of age (Olson & Hildyard, 1983; Olson & Torrance, 1983). A major finding from this research was the higher incidence of cognitive terms like *think*, *mean* and *say* in the everyday language of five and six year olds who subsequently became better readers (Torrance &

Olson, 1985); see also Watson, in press; Pellegrini, Galda, Cox & Dresden, 1989. Recently, in our research, we have narrowed the focus to "talk about text" (Olson & Astington, in press) and to the child's sensitivity to the features of a text *per se* (Torrance & Olson, 1987; Ruffman, Olson & Torrance, in preparation a and b). Currently our concern is to determine how children's notions about text and the interpretation of text develop in the pre-school and early school years.

Our studies of young children's notions of interpretation and intention are attempts to spell out the changes in children's understanding of what a text means. Our hypothesis is that children's understanding of the relation between a text and its interpretation progresses through three stages. These stages map more or less directly onto the notion of invariance of text:

1. *Text as intentional structure.* Interpretation is simply grasping the intentional structure of the text. A text is invariant if it generates the same interpretation on subsequent presentation. A story told in different words would be the same "text," that is, the same story.

2. *Text as literal meaning.* Interpretation is taken to be comprehension of *the* meaning of the text. The text is assumed to have one wording or form, and only one interpretation. At this level, children become literal-minded: interpretations arrived at are assumed to be in the text.

3. *Text as interpretable semantic structure.* A text is what is invariant across the interpretations or construals it allows. Interpretation is a matter of grasping those possible meanings. At this level, children would recognize the possibility of ambiguity and multiple interpretations or "readings" of a fixed text.

One line of research which we are currently following, examines children's understanding of the role of intention and ambiguity on the interpretation of utterances. These studies extend our line of research with the say/mean distinction (Torrance & Olson, 1987). Our basic finding is that children under the age of five or six, claim that a sentence means whatever a speaker means by it or, in other words, they conflate what is said with what is meant. As a result these young children lack a concept or notion of "interpretation."

We conducted one study in the past year with Deborrah Howes, which was designed to extend earlier studies (Beal & Flavell, 1984; Bonitatibus & Flavell, 1985; Torrance & Olson, 1987; Perner, Leekam & Yuill, 1988) of the say/mean distinction in two ways: First, we eliminated the possibility that children fail to distinguish what is said from what the speaker means by it because they fail to attend to the speaker's utterance when they are listening to a story; and second, we looked for some indication of the role of written text in children's understanding of the invariance of "what was said." Hence, the two major variables in addition to age, were whether or not subjects repeated an ambiguous message at the time of initial presentation, and whether or not a written version of the message was shown to subjects at the time of initial presentation.

Methodology. We have developed a series of illustrated stories which feature the familiar Peanuts characters, Lucy, Linus, Snoopy and Charlie Brown. The task involves listening to each of four stories in which the critical sentence of the story is ambiguous, allowing the possibility that the speaker intends the sentence one way and the listener interprets it another way. In a typical case, one of the characters *wants* her *new* red shoes but she asks only for her red shoes. A second character, not knowing her intention but hearing her request brings some red shoes, but, on half the items, not the red shoes that were wanted. The experimental subject upon hearing this illustrated story is then asked a series of questions designed to assess their understanding of the story and their ability to distinguish what was said from what was intended. A sample story and questions are shown in Table 1.

Insert Table 1 here

A total of 126 English-speaking children were tested, 64 from SK and 62 from Grade 2. Subjects were randomly assigned to one of four conditions, which varied on two dimensions, the presence or absence of a written message and the repetition or non-repetition of the ambiguous utterance at the time of initial presentation. For the non-

written message conditions, the wording of Questions 3, 4 and 6 was altered to take into account the change in the presentation of the ambiguous message, for instance, "What did Lucy ask Linus to bring?" "What were the exact words that Lucy said?"

Each child was presented with two pair of stories. Within each pair, an identical ambiguous utterance led to the intended outcome in one story (Match Condition) and to the unintended outcome in the other story (Mismatch Condition). At the end of each pair of stories we ask subjects questions intended to determine whether they have noticed that the ambiguous utterances are indeed the same in each story. For instance, "What did Lucy say to Linus when she wanted to go to the party?" "What did she say to him when she was going to play tennis?" "Did she say *exactly* the same thing each time?" "Were the words *exactly* the same each time?"

Within each group, the order of stories within pairs, the order of pairs presented, and the order of Outcome condition was counterbalanced. There were 16 subjects from each Grade in each condition except that there were only 15 Grade 2 subjects in both Written Message conditions (Written/Repetition and Written/No Repetition).

Results. In looking at subjects' responses to the series of questions, we have so far examined in detail their performance on three questions (Questions 3, 4, and 6 above). We use Subjects' responses to Questions 1 and 2 as control questions, to make certain that they have attended to and understood the story, and indeed performance on these questions is virtually perfect. Subjects' responses to Question 7 (the fault question) and to the final series of questions regarding the identity of ambiguous utterances for pairs of stories, have so far been looked at only to the extent that they corroborate our findings from Questions 3, 4 and 6. While we note generally coherent, consistent patterns of responding amongst the majority of subjects (90-95% of subjects give consistent answers across the question set), we have not attempted to incorporate these questions into our quantitative analyses.

In order to assess the effects of the Written Message, of Repetition and of Outcome Condition, in addition to Grade level on subjects' overall ability to discriminate what was said from what was meant, a Four-way ANOVA with repeated measures was performed on measures of subjects' accuracy in answering the three questions (Ask for, Exact words and Tell which). Since subjects received two stories in each of two outcome conditions, the maximum score per Outcome Condition is 6. A similar Four-way ANOVA was performed on measures of subjects' accuracy in answering Question 4 alone as we hypothesized differences in the recall of the exact words of the message depending on the condition of Presentation (Written/No Written and Repetition/No Repetition). The results of these analyses are shown in Tables 1 and 2.

Insert Tables 2 & 3 here

As can be seen in Table 2, for Questions 3, 4 and 6 combined, significant effects were obtained for Grade (SK Mean 4.16; Grade 2 Mean 5.03), and for Written vs. No Written Presentation conditions (Written Mean 5.2; No Written Mean 4.0). There was no significant overall effect for Repetition vs No Repetition of the critical utterance, and finally, there was a tendency for subjects to perform slightly better when the story outcome was *not* the one intended by the speaker (Unintended Mean 4.7) than when the story ended as the speaker intended (Intended Mean 4.5). The results of the Analysis of Variance on subjects' accuracy in answering Question 4 (What were the exact words ...), shown in Table 3, yielded significant effects for Grade (SK Mean 1.5; Grade 2 Mean 1.75), for Written vs. No Written Presentation of the message (Written Mean 1.9; No Written Mean 1.4), and as expected for Repetition vs. No Repetition of the critical utterance (Repetition Mean 1.7; No Repetition Mean 1.5). As before, there was a tendency for subjects to perform slightly bet ·r when the story outcome was *not* the one intended by the speaker than when it was (Unintended Mean 1.7; Intended Mean 1.6). Subjects mean scores on Question 4 for each of the four conditions of presentation, at each Grade level are shown in Figure 1.

Figure 1 about here

The effects of the two independent variables, namely, asking the subjects to repeat the critical utterance upon hearing it, and delivering the critical sentence in written in addition to oral form provided support for our original hypothesis. Repeating the utterance did improve children's performance on the exact words question. However, although they now recalled the exact words better, they did no better on the task as a whole. That is, an improvement in recall of the message did not influence their recognition that the utterance was ambiguous. The second independent variable, the use of a written message, had a more dramatic effect on children's performance on this task. Although the written message was removed before the Subject was asked to recall what the message said, subjects who were shown the message at the time of initial story presentation were better able to recall the exact words of the message *and* to recognize that the speaker had not indicated which red shoes the listener was to bring. That is, with a written message, the children came to distinguish what the speaker had said from the speaker's intention, corroborating an earlier finding of Bonitatibus and Flavell (1985) that it is easier for first grade children to detect ambiguity in a message which is presented in a written as well as oral mode.

In order to consider in greater detail precisely which strategies subjects were using in responding to the demands of the task, patterns of responding to Questions 3, 4 and 6 were considered and, where appropriate, Chi-Square Analyses were performed on the frequencies. We found that all subjects' responses could be categorized into one of five patterns, four of these varying along a continuum from complete conflation to complete differentiation of *said* and *meant*. The fifth pattern of responding is marked by inconsistency in answering the three questions. Such anomalous responses accounted for only 9% of the data overall, 7% in the Grade 2 data and 11% in the SK data. Furthermore, this response pattern occurred most frequently in the No Written

conditions of presentation (74% of Category 5 responses were in the No Written conditions). These response patterns are described in Table 4.

Table 4 here

The results of this analysis suggest that there are dramatic differences in the interpretive assumptions that children bring to a text. The first response pattern, a pattern which occurred more frequently in the younger subjects than in the older ones (11% of responses vs. 5.5% for SK and Grade 2 respectively), was to simply conflate the meaning of the text with the intended meaning of the speaker. This response pattern fits the first of our hypothesized stages. A second response pattern to emerge, occurring at least once in 20% of SK subjects, is to begin to recall the speaker's exact words, "red shoes" but to claim that the speaker had stated which red shoes to bring. Only 8% of Grade 2 subjects produced this pattern of responding. When responding to items in this way, subjects appear to recall the exact text but believe the text means more than the wording specifies. We take this to be evidence for the second stage of development, namely, that children take their interpretations to be in the text. A third response pattern is to claim that the speaker *asked for* the new red shoes while acknowledging that the speaker has said only "red shoes" and that the speaker had not told the listener which red shoes. It could be argued that these subjects took the "ask" question as equivalent to a "want" question. Although the latter two response patterns occurred more frequently in the younger subjects, there was no clear indication of an ordering within the two strategies. It is not clear that simply conflating what was said with what was meant is better or worse than distorting the sentence to fit the interpretation.

The fourth strategy is clearly superior and as Figure 2 shows, occurs more frequently in the older subjects (70% of Grade 2 responses vs 46% of SK responses). This response pattern would occur when subjects understood both what the speaker meant to say and what the sentence actually said. Hence, they can both recall what was said and that the

speaker had not told the listener which red shoes were wanted. In addition, they report that while the speaker had wanted the new red shoes, she had asked only for the red shoes. For these cases, these children, in line with our third hypothesis, are recognizing the possibility of ambiguity and multiple interpretations of a fixed text.

Figure 2 about here

Results of Chi-Square Analyses on the frequency data indicated that significantly more Grade 2 subjects reached this fourth adult-like pattern of responding than SK subjects for both Intended (Chi-square$_{(1)}$ = 12.82, $p<.0001$) and Unintended (Chi-square$_{(1)}$ = 4.51, $p<.05$) Story Outcome conditions. Furthermore, significantly more subjects in the Written presentation condition achieved adult-like responding than in the No Written presentation condition, again for both Intended (Chi-square$_{(1)}$ = 7.63, $p<.01$) and Unintended (Chi-square$_{(1)}$ = 11.15, $p<.0001$) Story Outcome conditions. Figure 3 shows these results averaged across Outcome conditions. Chi-squares performed on the frequency of this response pattern for the Repetition vs. No Repetition conditions failed to reach significance. These analyses tend to corroborate the findings of the Analyses of Variance, showing that, not only is the distribution of responses different across Grade level and conditions of presentation (written or not written), but also that the distribution of subjects recognizing ambiguity and discriminating what was said from what was intended also differs across Grade level and mode of presentation.

Figure 3 about here

Conclusions. We take these findings as strong confirmation of our hypotheses regarding the development of children's understanding that an utterance can have a meaning separate from the meaning intended by the speaker and of the importance of a written text in coming to make this distinction.

What is this "textual meaning" that children are becoming aware of? We suggest that it is one of the properties that children detect in their learning to treat language as an object. Textual meaning, in this sense, is a metalinguistic notion.

Clearly, textual meaning is not the first metalinguistic notion. Children at an early age begin to use metalinguistic notions like *say*, *ask*, *tell*, *story*, *song* and perhaps others. These metalinguistic concepts pertain to discourse and therefore are not distinctive of literacy. Other notions such as *word*, *sentence*, and *paragraph* presumably are related to literacy. The concepts of particular relevance here, those having to do with speaker's meaning or intention and sentence or textual meaning, can, of course, be exploited in either speech of writing so their acquisition need not be exclusively tied to reading and writing or literacy in general. But the evidence we have cited indicates that four and five year old children tend to conflate what a text means with what a speaker means by it. This is in spite of the fact that, as Hedelin and Hjelmquist (in press) have shown, children understand what it means to say "exactly," that is, using the very words in relaying a message to another person.

Our hypothesis is that children know "what was said" in the sense of repeating the very words -- indeed, that was one of the conditions of the present experiment -- but they lack the notion that those words have a meaning which may be distinguishable from the speaker's intention in using those words. Thus children's understanding of textual meaning is more closely related to issues like their understanding of word meaning, the idea that a word means something as well as refers to something. It may be that children begin to understand that words have meanings at about the same time that they begin to understand that sentences and texts have meanings but this relation has not yet been examined.

It is also worth mentioning that children appear to do in practice what they do not fully understand. Thus it is well known that children repair their own misstatements from

an early age, suggesting that even two year olds know the difference between what is said and what is meant. Our concern, however, is in children's understanding of these relations. When do they come to recognize that there could be a discrepancy between utterance and intention? And how does this new understanding come about?

We continue to consider two possible explanations for this development. The first is metalinguistic; perhaps children come to see language as an object with properties one of which is that it has meanings separate from the intentions of speakers. The second is that this understanding is tied to children's acquisition of a theory of mind, namely, that children come to understand that the listener could, on the basis of the sentence, come to entertain a belief different from that held by a speaker. The intimate relations between metalinguistic concepts and cognitive concepts may make it difficult to distinguish these two hypotheses. We have begun to examine these possibilities using a false-belief paradigm in studying children's understanding of ambiguity (Ruffman, Olson & Torrance, in preparation b).

The relations between this conceptual understanding and literacy is at best indirect. If children possess the requisite concepts then they can handle tasks like ours whether they are presented orally or in written form. But if the concepts are just being formed, then the written record appears to help the child distinguish the properties of the message from the intentions of the speaker. We take the fact the physical presence of the written text facilitates the child's making the text/intention distinction as evidence for the role of literacy and writing in the development of these interpretive concepts.

Illich and Sanders (1988) have recently made a parallel argument regarding the changed orientation to language that occurred from the Medieval to the Early Modern period. They note that the concept of language was not, in Medieval times, identified with a "tongue." A tongue became a language when it was written, standardized and when it acquired a dictionary and a grammar. a tongue was merely a means of

communicating through talk. Recognition of a tongue as a language was basic to a new understanding of *translation* from one language to another. Translation now meant a relation between languages rather than between speakers; translation came to be seen as different from interpretation. In general, the growth of literacy in the early modern period was accompanied with a new interest in and consciousness of language. It is this new awareness of meaning in the language that seems to distinguish the older children in our studies.

However this development comes about, it is clear that in learning to read, children must learn not only how to decode words and recover meanings but also to understand how the meanings of people relate to the meanings of texts.

References

Bellan, R. (1987) The task of the mentor as viewed by a reading therapist. Canadian Psychology, 28(2), 31.

Beal, C. R., & Favell, J.H. (1984). Development of the ability to distinguish communicative intention and literal message meaning. Child Development, 55, 920-928.

Bonitabus, G., & Flavell, J.H. (1985). Effect of presenting a message in written form on young children's ability to evaluate its communicative adequacy. Developmental Psychology, 21(3)455-461.

Goodman, K. (1971). The search called reading. In H. Robinson (Ed.), Coordinating reading instruction. Glenview, IL: Scott Foresman.

Hedelin, L., & Hjelmquist, E. (in press). Literacy and the say/mean distinction among preschool children. In P. Bosccio (Ed.) Proceedings of the International Workshop on Writing. Padova.

Illich, I., & Sanders, B. (1988). ABC: The alphabetization of the popular mind. New York: Vintage Books.

Luke, A. (1988). Literacy, textbooks and ideology. London: Falmer Press.

Miller, G. A. (1988, September). The challenge of literacy. Science.

Olson, D. R., & Astington, J. W. (in press). Talking about text: How literacy contributes to thought. Journal of Pragmatics.

Olson, D. R., & Hildyard, A. (1983). Writing and literal meaning. In M. Martlew (Ed.), The psychology of written language. (pp. 41-65). New York: Wiley.

Olson, D. R., & Torrance, N.G. (1983). Literacy and cognitive development: A conceptual transformation in the early school years. In S. Meadows (Ed.), Developing thinking: Approaches to children's cognitive development. (pp. 142-160). London, GB: Methuen.

Pellegrini, A. D., Galda, L., Cox, S., Dresden, J. (1989). A longitudinal study of preschooler' emergent literacy. Paper presented at the American Educational Research Association Annual Meeting, San Francisco, CA, March 1989.

Perner, J., Leekam, S., & Yuill, N. (1988). The message says what the speaker means. University of Sussex. Brighton, England. Mimeo.

Ruffman, E. K., Olson, D. R., & Torrance, N. G. (1989). Children's understanding and interpretation of a speaker's ambiguous message. Unpublished manuscript. Ontario Institute for Studies in Education, Toronto, Ontario.

Ruffman, E. K., Olson, D. R., & Torrance, N. G.(in preparation). Children's understanding of ambiguity and false belief. Ontario Institute for Studies in Education, Toronto, Ontario.

Smith, F, (1971). Understanding reading: A psycholinguistic analysis of reading and learning to read. New York: Holt, Rinehart & Winston.

Torrance, N. G., & Olson, D.R. (1985). Oral and literate competencies in the early school years. In D.R. Olson, N.G. Torrance, & A. Hildyard (Eds.), Literacy, language, and learning: The nature and consequences of reading and writing (pp. 256-284). Cambridge, GB: Cambridge University Press.

Torrance, N. G., & Olson, D. R. (1987). Development of the metalanguage and the acquisition of literacy: A progress report. Interchange, 18(1/2), 136-146.

Watson, R. (in press). Literate discourse and cognitive organization: some relation between parents' talk and three-year-olds' thought. Applied Linguistics.

Table 1: Sample story and Questions

Condition: Message Written; Message Repeated; Outcome Unintended

One Saturday night, Lucy and Charlie Brown were going to a party. Lucy was all dressed in her brand new red party dress, but she didn't have her shoes on. She wanted to wear her *new* red party shoes to go with her party dress.

Linus was upstairs in his room and he didn't know anything about the party at all. Lucy felt too lazy to get her shoes from her bedroom so she sent Snoopy upstairs with a note for Linus. Here is the note that Lucy sent. It says "Linus, bring me my red shoes." Now tell me, what did Lucy's note say to Linus?

Linus went to Lucy's closet and he picked up the *old* red shoes and rushed down the stairs with them. He said "here are your red shoes" and handed them to Lucy.

"Good grief" said Lucy. "How can you be so stupid?" and she gave him a smack on the head.

Questions

1. Did Linus bring the shoes that Lucy wanted?
2. What did Lucy want Linus to bring?
3. In her note, what did Lucy ask Linus to bring?
4. What were the exact words in Lucy's note? It said "Linus, bring me ..."
5. Did Linus know which red shoes Lucy wanted ?
6. In her note, did Lucy tell Linus which red shoes she wanted?
7. Something went wrong didn't it? Whose fault was it? ___ Why? (optional)

Source	Mean Square	df	F	p
Grade	47.62466	1	14.02	.0003
Written/No Written	92.70663	1	27.29	.0000
Error	3.39654	118		
Match/Mismatch	2.87056	1	3.12	.0797
Error	.91893	118		

Table 2: Results of ANOVA on Measures of Accuracy for Questions 3, 4, and 6 Combined

Source	Mean Square	df	F	p
Grade	2.95519	1	6.68	.0109
Written/No Written	12.80663	1	28.97	.0000
Repetition	1.88224	1	4.26	.0413
Error	.44209	118		
Match/Mismatch	.57814	1	2.90	.0913
Error	.19951	118		

Table 3: Results of ANOVA on Measures of Accuracy for Question 4

Table 4: PATTERNS OF RESPONSE FOR Q3, Q4 AND Q6

1. COMPLETE CONFLATION OF TEXT MEANING AND INTENDED MEANING

Q3: What did Lucy ask Linus to bring?
A: "her *new* red shoes"
Q4: What were the exact words?
A: bring me "my *new* red shoes"
Q6: Did Lucy tell Linus which red shoes ...?
A: "yes"

2. RECALL EXACT TEXT BUT RESPOND AS IF MESSAGE IS UNAMBIGUOUS

Q3: What did Lucy ask Linus to bring?
A: "her *new* red shoes"
Q4: What were the exact words?
A: bring me "my red shoes"
Q6: Did Lucy tell Linus which red shoes...?
A: "yes"

3. RECALL EXACT TEXT, RESPOND AS IF MESSAGE IS AMBIGUOUS, EQUATE ASK FOR AND WANT

Q3: What did Lucy ask Linus to bring?
A: "her *new* red shoes"
Q4: What were the exact words?
A: bring me "my red shoes"
Q6: Did Lucy tell Linus which red shoes ...?
A: "no"

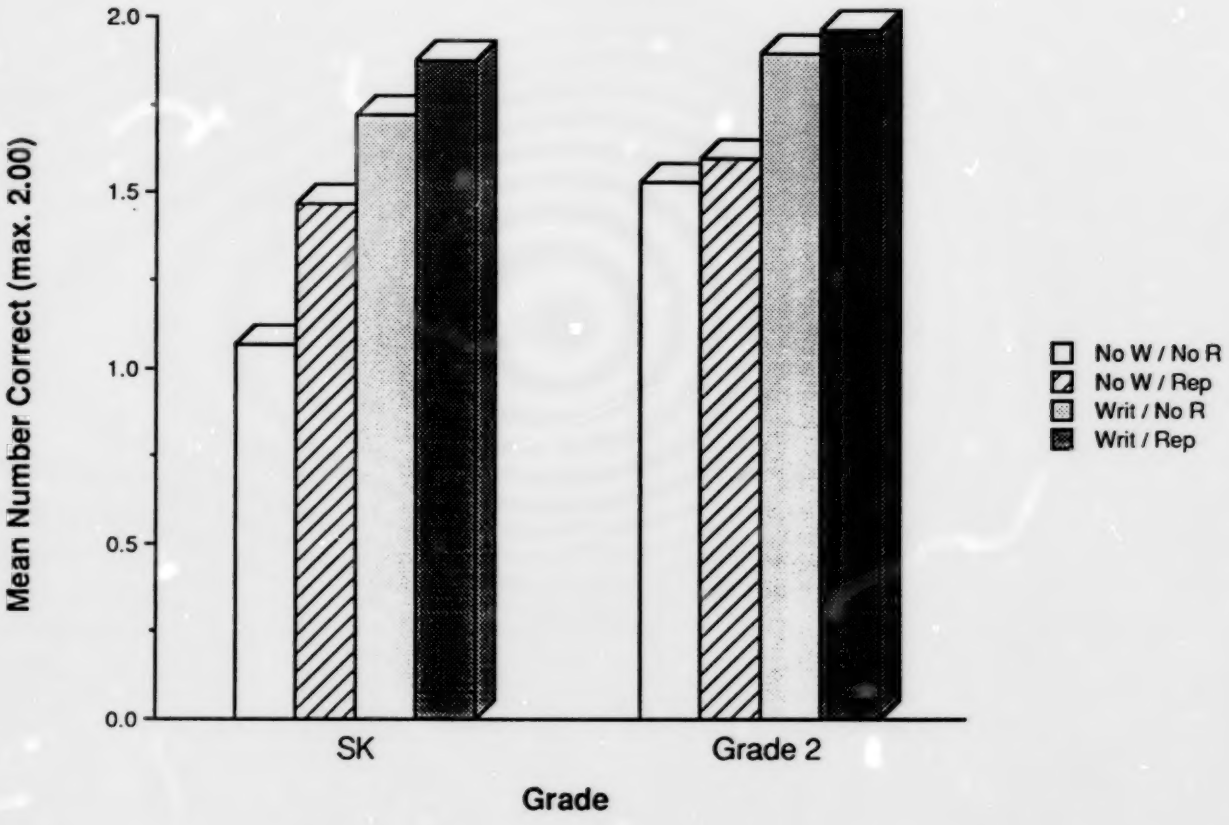
4. COMPLETE DIFFERENTIATION OF TEXT MEANING AND INTENDED MEANING: TEXT AS INTERPRETABLE SEMANTIC STRUCTURE

Q3: What did Lucy ask Linus to bring?
A: "her red shoes"
Q4: What were the exact words?
A: bring me "my red shoes"
Q6: Did Lucy tell Linus which red shoes ...?
A: "no"

5. INCONSISTENT RESPONDING TO Q4 AND Q6 (9% of responses)

Q3: What did Lucy ask Linus to bring?
A: "her red shoes/her new red shoes"
Q4: What were the exact words?
A: bring me "my new red shoes"
Q6: Did Lucy tell Linus which red shoes ...?
A: "no"

Figure 1: Recall of Exact Word By Condition of Presentation



Note: Interaction is not significant

Figure 2: Differentiation of Spoken and Intended Meaning by Grade Level

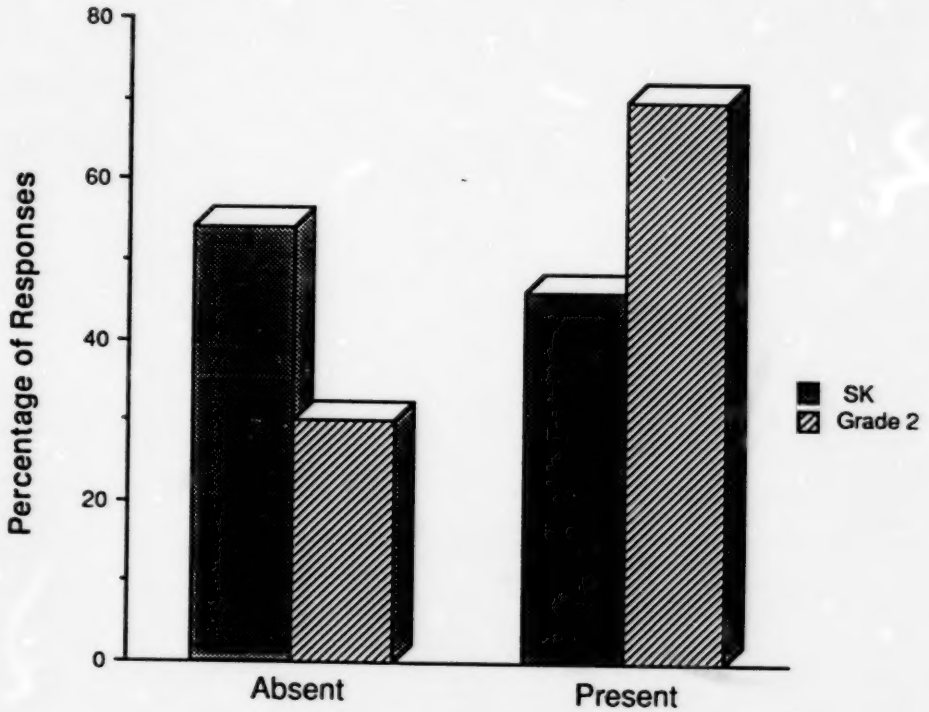


Figure 3: Differentiation of Spoken/Intended Meaning By Written Message/No Written Message